

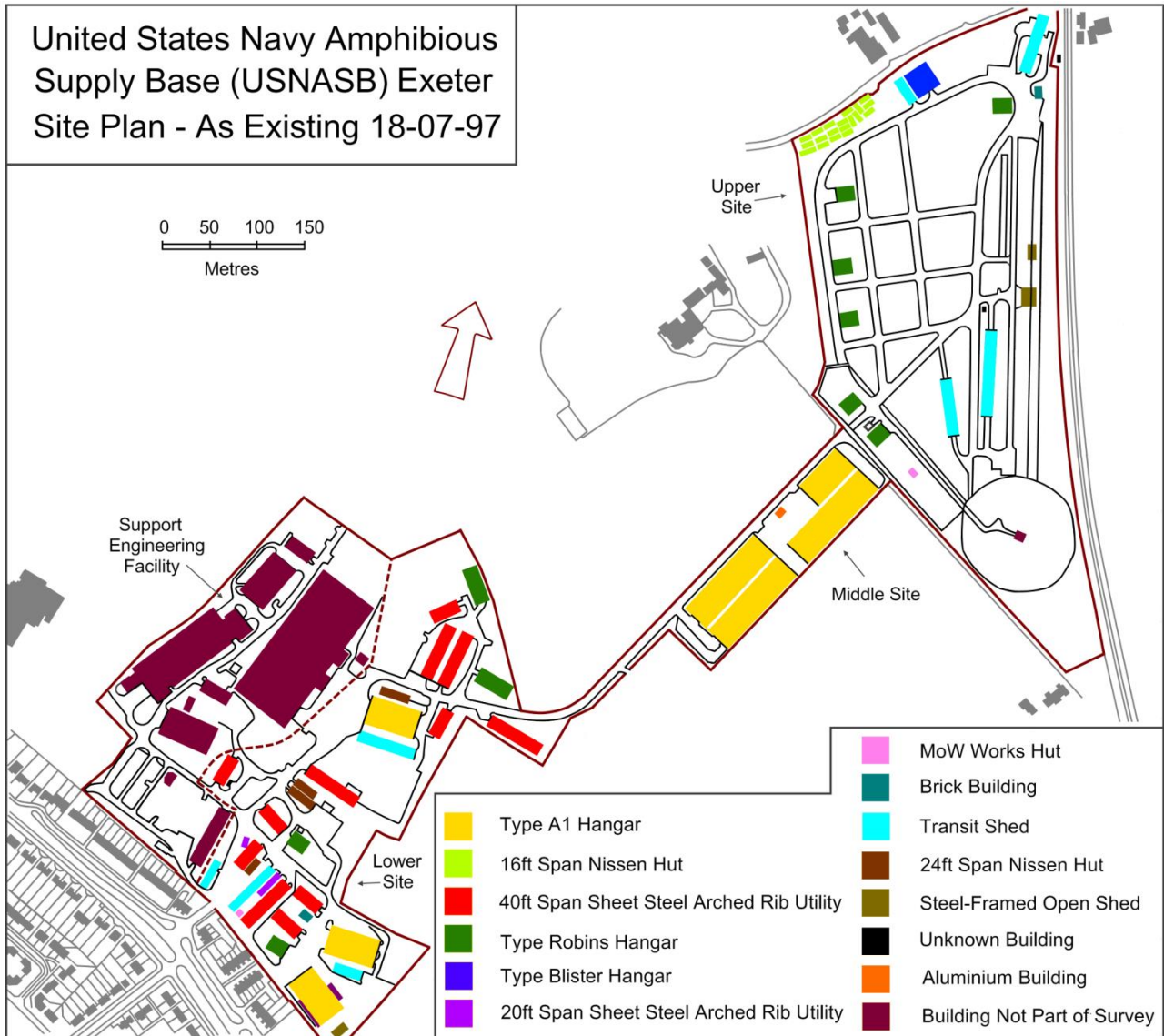
# Airfield Research Group Ltd

## ARG Research Note No.11: United States Navy Amphibious Supply Base Exeter

Paul Francis – September 1997



# United States Navy Amphibious Supply Base (USNASB) Exeter Site Plan - As Existing 18-07-97



## Contents

### Chapter 1: Historical Summary

1.1	Background	4
1.2	US Navy	4

### Chapter 2: The US Naval Amphibious Base, Exeter

2.1	Background	6
2.2	The USNASB in WWII	7
2.3	Post-WWII	10

### Chapter 3: Gazetteer of Surviving Structures

3.1	20ft Span Quonset Huts	18
3.2	40ft Span Quonset Huts	20
3.3	Transit Sheds	37
3.4	Ministry of Aircraft Production Supplied Hangars	46
3.5	Air Ministry Supplied Hangars	65
3.6	Air Ministry Supplied Huts	67
3.7	Ministry of Works Huts	76
3.8	Railway Buildings	78
3.9	Miscellaneous Buildings	84
Appendix 1:	Associated USN Bases & Store Depots in Devon	92
Appendix 2:	USN Construction Battalions Based in the UK 1942-1945	93
Appendix 3:	USN Special Battalions Based in the UK 1944-1945	94
Appendix 4:	USN Construction Battalion Maintenance Units Based in the UK 1944-1945	94
Appendix 5:	USN Construction Battalion Detachments Based in the UK 1943-1945	94
	Primary Sources	95
	Secondary Sources	96

## Preface

The former United States Navy Amphibious Supply Base at Exeter is located between the City of Exeter and Topsham. Today it consists of a total area of 77 acres but is considerably smaller than as originally constructed during the Second World War.

It consists of three sites, a Lower Site fronting Topsham Road (NGR: SX 9525 8964), consisting of 42 acres; the Middle Site adjoining the grounds of Newcourt House (NGR: SX 9580 8996) of four acres and an Upper Site adjacent to the Exeter to Exmouth railway line (NGR: SX 9600 9030), covering 31 acres.

The housing fronting Topsham Road on each side of the main access road, was once part of the establishment, but this area was relinquished by the Navy in the 1960s.

The depot is 45 miles from Devonport, 216 miles from Chatham and 136 miles from Portsmouth, while the Admiralty Stores Headquarters at Bath is 82 miles away.

This report has been commissioned by Exeter City Council Planning Services in order to assess the nature, quality and significance of the surviving structures in the context of proposals for the redevelopment and re-use of the site. The report has encompassed all aspects of the original depot complex including: civil engineering, communications, roads, railways, domestic accommodation, workshops and store buildings. A comprehensive gazetteer of all surviving structures dating from World War Two has been compiled. All were visited and photographed as part of a rapid survey carried out between 16 and 17 July 1997. The report describes the overall role and origin of the base, particularly in relation to the D-Day landings and subsequent campaign. Building descriptions are described within this report at the English Heritage (EH) Level 1<sup>1</sup> standard.

This enhanced version of the original report includes digitised mapping and colour illustrations but it does not include Chapter 4: Conclusion.

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<sup>1</sup> See Understanding Historic Buildings - A Guide to Good Recording Practice – published in 2006 by English Heritage. Section 5, pages 13 to 14.

## **Chapter 1: Historical Summary**

### **1.1 Background**

Most of the land occupied by the depot, had been part of the estate of Admiral Sire John Duckworth who had bought the estate in 1804. His heirs held the estate until it was sold in 1929, it then became the Exeter Golf and Country Club and despite its military usage, the depot since the war had always observed the right of way that exists across its land for the benefit of the golfers.

The Upper Site was once part of the estate of Newcourt House. The total area of land was requisitioned under war time regulations for the purpose of constructing a United States Navy facility. After the war it was derequisitioned and most of the site was purchased by the Admiralty in 1953.

The depot was well served by purpose-built roads and did have a second access via Rydon Lane into the Upper Site. A spur from the Exeter / Sidmouth railway also ran into the Upper Site and then forked into two separate branch lines to permit loading and unloading to occur simultaneously. Rail traffic into the depot finally ceased c.1979.

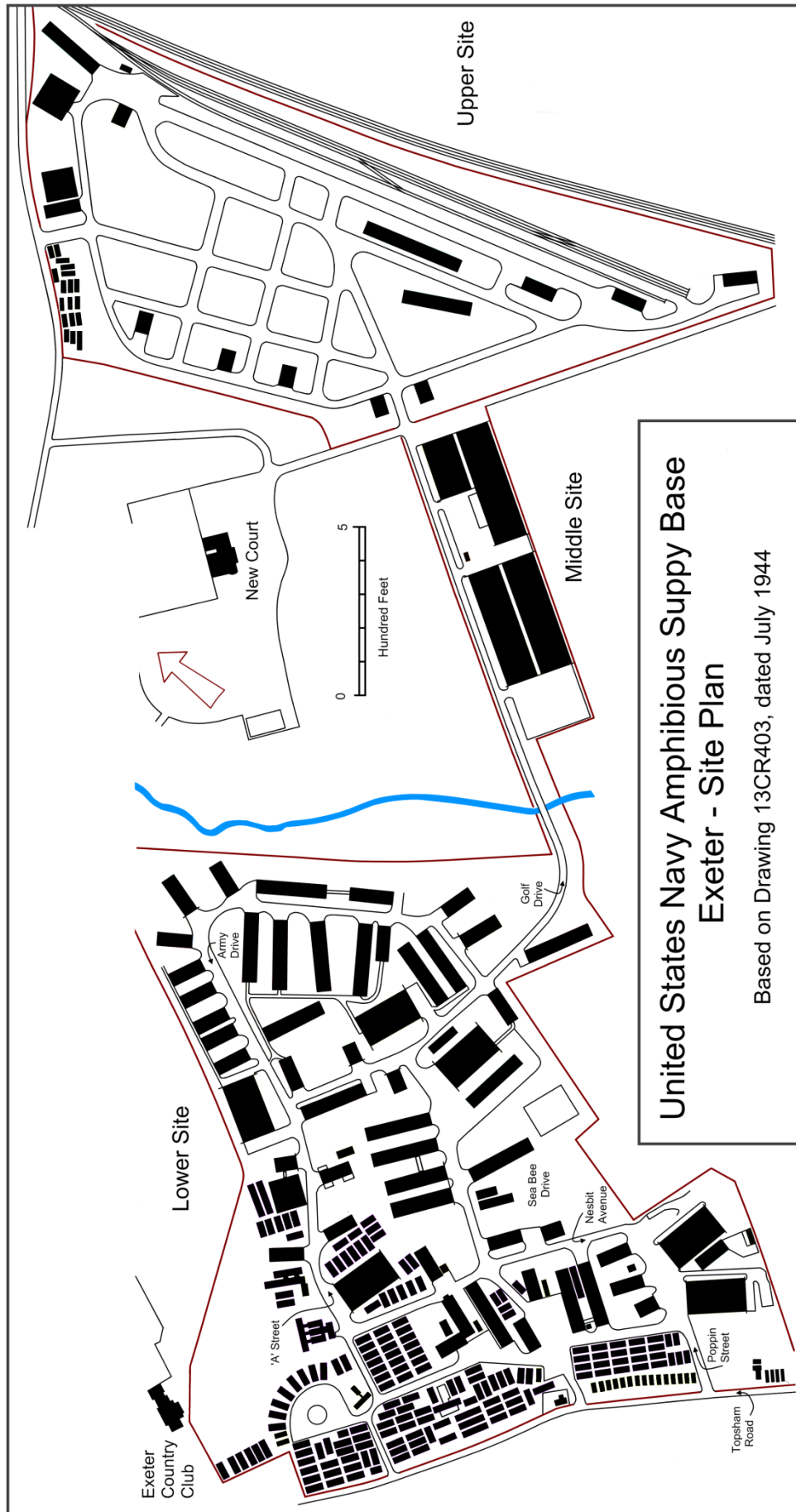
### **1.2 US Navy**

The former Royal Naval Stores Depot at Exeter was originally built in 1943-44 by the US Navy Construction Battalion - the Sea Bees. It performed a vitally important pivotal role during the preparations for D-Day, and in support of the campaign that followed. This importance was recognised during the war by Admiral Wilkes, USN, who asserted that the USN Amphibious Supply Base at Exeter, was the most vital United States Naval establishment in Europe during World War Two.

Even while the depot was being built during late 1943, Exeter had become the lifeline of invasion preparations. By late February 1944, American freight was being unloaded at the docks onto railway trucks destined for the depot at Exeter. Up to 200 railway trucks were arriving daily at the sidings which had to be unloaded, sorted, stored and redistributed by road to the many amphibious bases in southern England.

It is quite likely that every American ship which participated in the Invasion of North West Europe had aboard items which came from the depot at Exeter. These could well have included clothing, cigarettes, medical supplies, ordnance, propulsion machinery, radar equipment and spare parts.

The site originated as the main US Navy Amphibious Supply Base in Europe during World War Two. Since the end of the war it has been used by the Royal Navy as a Stores Depot, until its final closure in 1997. An enclave has been retained by the Ministry of Defence and it is intended that the remainder will be released for redevelopment. Some of the buildings have been demolished, although a large number of those built by the US Navy still remain.





## Chapter 2: Operational History

### 2.1 Background

The need to expand American naval shore facilities at home and abroad, had been recognised by Congress throughout the 1930s. New bases were constructed by civilian companies under the direction of Navy officers. But from 1941, the Bureau of Yards and Docks made the decision to form military Headquarters Construction Companies under the control of the officers in charge of construction. Personnel of these companies were engaged in trades such as draftsmen, inspectors administration, and supervisors overseeing the civilian contractors.

Rear Admiral Chester W Nimitz, Chief of the Bureau of Navigation, authorised on 31 October 1941, the formation of the first Headquarters Construction Company and the enlistment of men although they were not allowed to carry out any construction themselves. Two officers and 99 men were to be assigned to each company, but while training was being carried out during December at the Newport Naval Station on Rhode Island, came news of the Japanese attack on Pearl Harbour. This quickly showed that there was an urgent requirement for a dedicated naval construction force, with the result that the Chief of the Bureau of Yards and Docks, Rear Admiral Ben Moreell, organised and mobilised the US Navy's first official construction battalions. Authority was therefore given on 5 January 1942 by the Bureau of Navigation to recruit men from civilian construction industry trades for assignment to a Naval Construction Regiment, comprising three Naval Construction Battalions.

In early 1942 at Quonset Point Naval Air Station, Rhode Island, Ensign RD Woodward invented the name 'Seabee' as the official name for the US Navy's new construction Battalions. This is an acronym from the first letter of each word: 'CB'.

A typical Seabee construction battalion was composed of four companies that included the necessary construction skills for carrying out their work, plus a headquarters company consisting of medical, dental doctors and technicians, administrative staff, store keepers, cooks and other personnel. The complement of a typical battalion was originally set at 31 officers and 1,073 men.

Seabee training took place at Camp Allen and the adjacent Camp Bradford, Norfolk, Virginia, where men were formed into the construction battalions. Advanced training took place at Camp Endicott, Davisville, Rhode Island; Quonset Point, Rhode Island; Camp Peary, Virginia; Port Hueneme, California and Gulfport, Mississippi. These depots were also used for staging the large numbers of Seabees and war material ready for shipment overseas.

During World War Two the total number and types of Seabee battalions consisted of the following:

- 151 regular construction battalions
- 39 special construction battalions
- 164 construction battalion detachments
- 136 construction battalion maintenance units
- 5 pontoon assembly detachments
- 54 regiments
- 12 brigades

## 2.2 The US Naval Amphibious Supply Base Exeter in WWII

### 2.2.1 Background

In 1943 plans were made for the establishment of a group of US naval amphibious bases in Devon and Cornwall and that Exeter because of its geographical location, should be the central lifeline of supply for these bases. Exeter's position with regard to the main bases at Dartmouth, Fowey and Plymouth plus the smaller sites made it possible to move materials in less than a day by road or overnight by rail to any location. All of these and later, the airfield at Dunkeswell, collectively comprised the operating backbone of the US Naval Forces in Europe.

The proposed depot at Exeter required good rail, canal / river and road communication and enough room in which to house the many warehouses, hutted camps and ancillary buildings. Most of the land on which the depot was to be built had been bought in 1804 by Admiral Sir John Duckworth, his heirs held on to the estate until it was sold in 1929, and it then became the Exeter Golf and Country Club. The land therefore in the beginning of 1943, comprised mainly of nine holes of an 18-hole golf course and farmland belonging to Newcourt House, which together covered an area of 95 acres. Under the Reverse Lend-Lease programme of providing supplies and services to the American Forces in the United Kingdom without cost to the United States, land was formally requisitioned. Construction began on 12 October 1943 with the building of the depot being the responsibility of the 29th Construction Battalion. Contracts were placed with Dorman Long & Co. Ltd. of Middlesbrough to supply the steelwork for two different types of Ministry of Aircraft Production hangars, these being the Robins and A1 types. Nissen huts were also provided by the Air Ministry, but the bulk of new buildings erected at Exeter were imported from the United States. These were prefabricated American-built Sheet Steel Arched Rib Utility huts (more commonly known as Quonset huts) and Transit type store sheds.

A period of bad weather meant that a total of 100,000 loads of rock waste from local quarries had to be brought in before concrete could be laid for the bases of hangars and sheds. Meanwhile, up to 200 freight rail trucks per day began to arrive at the base railhead. All of this had to be stored in the open until the store buildings had been erected. Even while this was still being completed, during February 1944, the base was actively involved with the supply of material to the amphibious bases in the locality.

Lieutenant Commander CD Williams, (SC) USNR, reported as the first prospective commanding officer on 27 October 1943 until 19 January 1944 when Lieutenant NF Howard, USNR replaced him. The first operating CO was Commander VF Blakeslee, USN (Retired) who assumed duty on the official commissioning day on 3 February 1944.

Mature trees which were located close to the boundary fences had viewing platforms (equipped with small searchlights for night duty) built in them to provide a look-out position of the immediate area outside the base. This was to prevent illegal entry by local women. Invited female 'guests' were however, brought in by the truck load from the Gaumont British News at Crediton and elsewhere for the regular officers' dance parties. Other communal functions included the station cinema and dance hall (building 109) and the gym (building 38) which had a boxing ring and where on occasions Joe Louis gave exhibition bouts. A base hospital established within the living quarters, had its own operating theatre, a dental surgery and a convalescence home. Simultaneous communication to personnel working within the three sites was by a tannoy system, this came either in the form of piped music, or important base information such as the daily reminder at 11.00 hrs. - 'now here this, now here this, the ice cream parlour is now open'.

A detachment of the Tenth Special Construction Battalion carried out the unloading, loading and movement of all material entering and leaving the main depot at Exeter, and the sub-depots at Hawkerland Valley and Winslade.



Personnel from this unit was as follows:

- Officers 10
- Men 527

Also in Exeter was a pontoon assembly yard located at the City Basin where the River Exe meets the Exeter Ship Canal. A pontoon docking area was also established further along the Exeter Ship Canal in the region of Alphington.

The various departments of the USNASB at Exeter were as follows:

#### 2.2.2 Administration Department

The administrative department was responsible for the satisfactory running of the base. Services included the following: medical department, telephone exchange, galley, shoemaker's and barber's shops, monthly payroll and the issue of clothing.

- Officers 4
- Men 11

#### 2.2.3 Audio Visual Department

The audio visual department was manned by four officers and 11 men, it was responsible for showing information and training films such as the techniques of amphibious warfare or first-aid to Navy personnel all over the United Kingdom. This was done through 17 branch offices which were supplied from the stock of 4,800 reels of sound film and 400 reels of silent film held in store at Exeter. A major venue for the audio visual unit was the US Naval Advanced Amphibious Base at Southampton. With a complement of 65 officers and 800 men, this unit provided logistic support for US Naval Forces in the Portsmouth-Southampton area.

- Officers 9
- Men 37

#### 2.2.4 Radio Material Office

This department it had the important task of maintaining, supplying and the fitting of radio equipment, identification friend or foe (IFF) sets, navigation radar and sonar sets to the invasion fleet. They also constructed mobile radar stations, mobile communication vehicles, redesigned and built landing craft masts to take the weight of a radar antennae.

- Officers 20
- Officer Technicians 5
- Men 142

Five warehouses, totalling 23,000 square ft were allocated to this department.

#### 2.2.5 Registered Publications Issue Office

The registered publications issue office was manned by 11 officers and 16 men. It was a sub-office under the Registered Publications Issue Office in London. The personnel of the department worked a 24-hour shift system. The office carried 120,000 publications in stock and frequently issued over 31,000 publications per month.

### 2.2.6 Spare Parts Distribution Centre

The spare parts distribution centre specialised in diesel engine and hull spares necessary the ships of the invasion fleet operational. Typically the fleet requiring spare parts included the following vessels: cruisers, destroyers, minesweepers, landing craft, patrol craft, tankers and tugs.

Personnel of the spare parts distribution centre were as follows:

- Officers 6
- Technical Officers 4
- Men 121

A total of 87,125 square ft of warehouse space for 17,000 items was allocated to the Exeter spares distribution centre.

Two sub-depots were also established at Launceston where 9,000 items were stored and at Tiverton where 14,000 items were held.

### 2.2.7 Supply Department

As Exeter was the main supply base for the US Navy, one quarter of the total staff worked within the various sections making up the supply department. Personnel working within this department was as follows:

Table 1: *Establishment of the Supply Department, Exeter*

Section	Officers	Men	Function
Issue	1	24	Issuing of general equipment & stock control
Medical Storehouse	2	42	Issuing of medical supplies to the invasion fleet
Ordnance	1	14	Assembly and issue of ordnance
Procurement	3	10	Requisition of equipment from local industry
Receiving	2	78	Receipt of all deliveries by road & rail
Shipping	1	30	Supply of equipment to the naval fleet
Ship Stores & Clothing	2	29	Supply of clothing & small stores to naval personnel
Storage	5	80	Classification & storage of heavy equipment

### 2.2.8 Medical Storehouse

Operated by two officers and 42 men. Medical stores for 100,000 men were held at Exeter. Medical equipment supplied to the invasion fleet varied from hospital blankets to blood plasma.

### 2.2.9 Ordnance

This section occupied 9,000 square ft of warehouse space at Exeter, and also had a large open air storage facility at Hawkerland Valley and Winslade Park.

### 2.2.10 Receiving

Two officers and 78 men had the responsibility of inspecting all receipts into the depot. A total of 70,000 square feet of warehouse space was allocated to this section which handled the receipt of all materials fed into Exeter by either road or rail.

#### 2.2.11 Shipping (Despatch)

One warehouse with an area covering 33,250 sq ft (two A1 hangars placed together creating a large building) made up the shipping section. Material from this warehouse was loaded onto truck and sent out to the various USN bases all over the UK.

#### 2.2.12 Ships Stores and Clothing

Two officers and 29 men supplied a wide range of clothing and ships stores to land based USN personnel stationed within the UK. A total of 348,000 sq ft of storage space was allocated to this section which supplied 65 items of ships stores and 68 items of clothing. This section also operated retail stores in Exeter for the sale to base personnel, of ships stores, clothing and naval uniform.

#### 2.2.13 Storage

Five officers and 80 men were responsible for the storage task at Exeter. A further 600,000 sq ft of additional open storage space was established at Hawkerland Valley (60 acres) and Winslade Park (15 acres).

#### 2.2.14 Transportation Department

A total of five officers and 608 men manned the transport department. In order for the base at Exeter to function successfully, it was necessary to have a large motor transport section. This was operated by 1049 Construction Battalion Detachment. Altogether 388 GMC CCKW-353 Cargo Trucks and other types varying in weight from 1.5-tons to 25-ton truck and trailer combinations, were allocated to this department for freight runs. In addition, they maintained the 81 vehicles operated by the supply department and 65 vehicles belonging to the Tenth Special Construction Battalion. At the invasion peak, more than 8,000 gallons of petrol were being issued each day. Specialist vehicles included mobile cranes and Clarke forklift trucks.

### **2.3 Post War**

#### 2.3.1 1946

Management of part of the United States Navy Store Depot reverted to the Admiralty in 1946 with control vested in the Director of Stores Organisation. The Americans still retained an enclave comprising the living quarters area of the Upper Site and several store sheds including hangars 32 and 34. A fence running along Nesbit Avenue provided the boundary between the American and British Sectors. The living quarters became a transit camp for servicemen returning to the United States, and the stores area held American equipment awaiting disposal.

The main roads (crushed quarried stone and earth tracks) in the American Sector were still being levelled on a daily basis by mechanical plant (angle scrapers) as hard surface roads had yet to be built. Access to the hutted living quarters was along paths made from wooden duckboards. This practice continued until large quantities of rubble became available from blitzed buildings in Exeter which was used as hardcore in the construction of roads over the whole of the base.

#### 2.3.2 The British Sector

The official opening of the British Sector took place at 09.30 hours on 28 January 1946 with staff detached from Devonport Dockyard. Control was vested in the Director of Stores Organisation.

Staff included the following:

- Deputy Naval Stores Officer
- Storehouse Man 1
- Storehouse Man Assistants 4
- Chargemen 2
- Store Boys 2
- Labourers 13

As there was no living accommodation available, use was made of the Salvation Army Hostel in Exeter until lodgings could be found locally. The depot was outside the Exeter City boundary and so there was no regular bus service serving the base, instead a lorry collected staff from South Street, Exeter. A new entrance to the British Sector was established via Rydon Lane - a narrow road skirting the golf course and leading into the Upper Site. Access along here during the winter of 1946/47 was extremely hazardous on account of heavy snow drifts.

The main part of the depot soon became a collection centre for the sorting of unwanted naval stores from closing establishments at home and overseas. A large consignment of 'Art Metal Racking' was erected in the store sheds for this purpose. Stores were slow to arrive at first, but the volume soon increased with the arrival of railway trucks from depots in the north of England. These being at St. Helens and Elland where requisitioned mills had been used as temporary naval stores. The mills were in the process of being handed back to their original owners, but before this could happen, all stores had to be sent by rail to Exeter. The limited manpower at Exeter could not cope with the sheer volume of rail traffic, with the result that all railway company sidings between Bristol and Exeter were filled to capacity with trucks containing naval stores. This embargo continued until the railway trucks could be processed at the Exeter depot.

Additional staff soon arrived including an Inspector of Stores and several storehouse men returning from a naval establishment at Taranto, North Africa. Other new staff included several 'Green Card' men - men who were not 100% fit due to having been POWs in Germany or Japan. The depot mechanical equipment was also increased and in 1948 these included two 3 ton Jones Cranes; a 7 ton Canadian Ross forklift truck; followed later by a large caterpillar tracked-crane for service at the railway sidings on the Upper Site. American electrical systems had been operating on either 110 volts for normal hangar and shed lighting or 400 volts for heavy duty requirements. The heavy duty voltage had been provided by pairs of heavy mobile generators, placed at various points around the base, but these had now been removed to the American Sector. Therefore an early priority for the Civil Engineering Department, was the rewiring of the base.

It was not until c1949, with the departure of the Americans, that the Deputy Naval Stores Officer - Mr. Hire and the Forman of Stores - Mr. Whitfield were able to commandeer a hut each for use as living quarters. Eventually 20 similar huts were converted as living quarters for key staff.

A significant change to the role of the depot at Exeter came about as a result of the Korean War which broke out in June 1950, and the subsequent rearmament by the United Kingdom. The depot began again to be used for the storage of serviceable stock, both general stores such as plank timber, anchors, chains and large electrical and mechanical equipment such as radar aerials, their specialist test sets and even replacement ship engines. During this period two steel-framed rail-issue sheds were built on the Upper Site so that the unloading of rail trucks could be carried out under cover. The larger one became affectionately known as 'the Cow Shed'.

From late 1950, an important task undertaken at Exeter (shed 38) was the Life-raft Test and Repair Facility for all ships and overseas establishments. Liferrafts were examined, repaired, fitted out with drinking water, flares, rations, sweets and other ancillary support items to aid survival at sea. Finally, the liferafts were tested and certified as fit for use. Life jackets, either of standard naval issue or assault lifejackets for the Royal Marines were also checked.

During 1951 a serious flood took place within the underground naval stores complex at Copenacre, Wiltshire, with the result that 1,000 packing cases per week of electrical components had to be despatched to Exeter. This equipment had to be inspected, declared damaged beyond repair and disposed of.

In addition to bringing stores to the depot by rail, the Admiralty had constructed (c1955) a quay at Countess Wear and two 200 ton coasters (C620 and C625) were used to deliver stores from Devonport to Exeter. The stores were then transferred at the quayside onto lorries and taken to the depot to be sorted. Also during 1955 a new revolutionary type of racking was purchased - these being 'Fisher Ludlow Platforms' - and this system transformed the storage capacity of the depot.

It was during the early 1960s that a strip of land fronting Topsham Road containing the old living quarters was relinquished by the Admiralty and sold off for housing.

The structure of the depot changed little during its existence, but its controlling organisation changed from time to time. In 1965 the three historic Admiralty supply organisations, Stores, Victualling and Armament amalgamated to form the Royal Naval Supply and Transport Service and became known within the Ministry of Defence as the Director General Supplies and Transport (Naval).

By the late 1970s, the use of the railway to transport equipment was slowly coming to an end as being too expensive and instead, alternative arrangements were made using private road haulage companies. The railway sidings were therefore rundown and eventually abandoned.

In 1983, with the closure of Chatham Dockyard, the complete stock of electrical stores was transferred to Exeter. Additional premises had to be found and a large whisky warehouse on the Sowton Industrial Estate was leased for this purpose.

In 1984 the depot became the first RNSTS Stores Depot to be managed by a Stores Officer Grade 'B', but in 1988, the post was promoted to Stores Officer Grade 'A'.

In 1987 a new general purpose store was constructed in the centre of the Lower Site which provided a modern high rise warehouse for a multitude of different stock items. As a result of the closure of a RN store depot at Llangennech in South Wales, a test facility was constructed in 1989 to support the increasingly sophisticated electronic materiel stored at the depot. The closure two years later of yet another store depot, this time at Copenacre, provided a further influx of technical equipment.

The base officially closed as a Naval Stores Depot on 31 March 1997, but an enclave called the Support Engineering Facility has been retained.

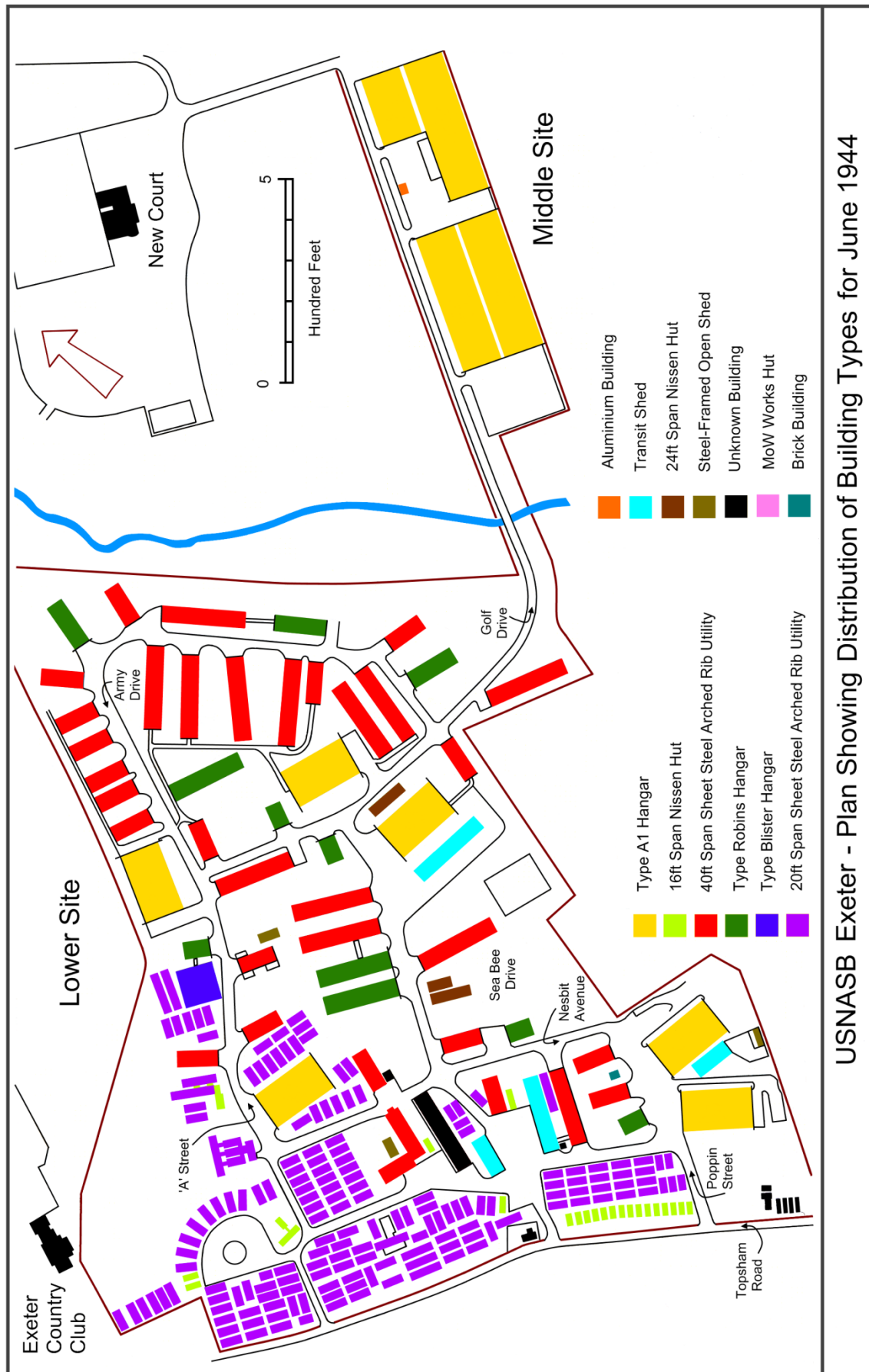


Plate 2: Buildings– Quonset Huts (36 and 36A)



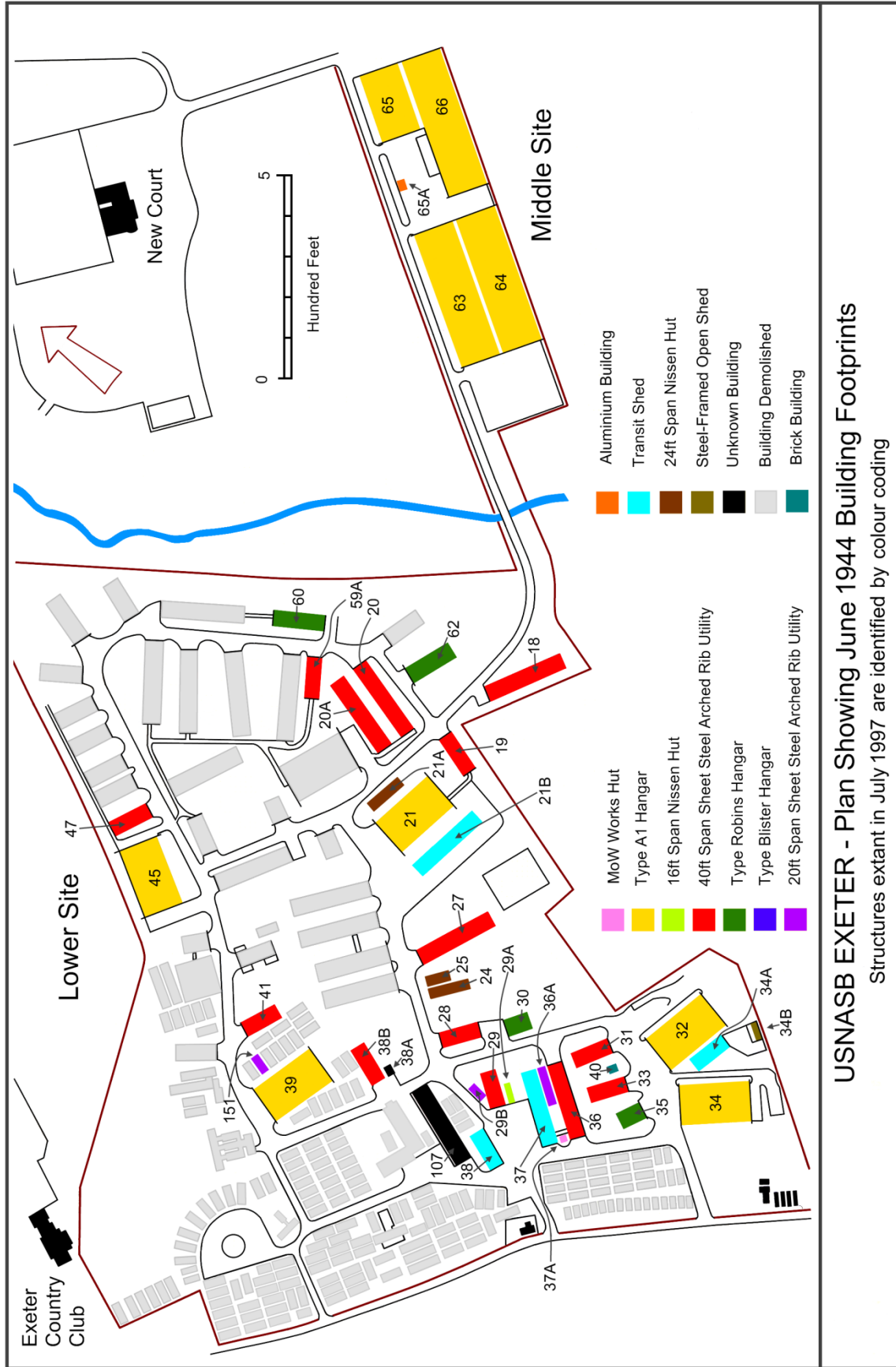
Plate 3: Transit Shed (27)





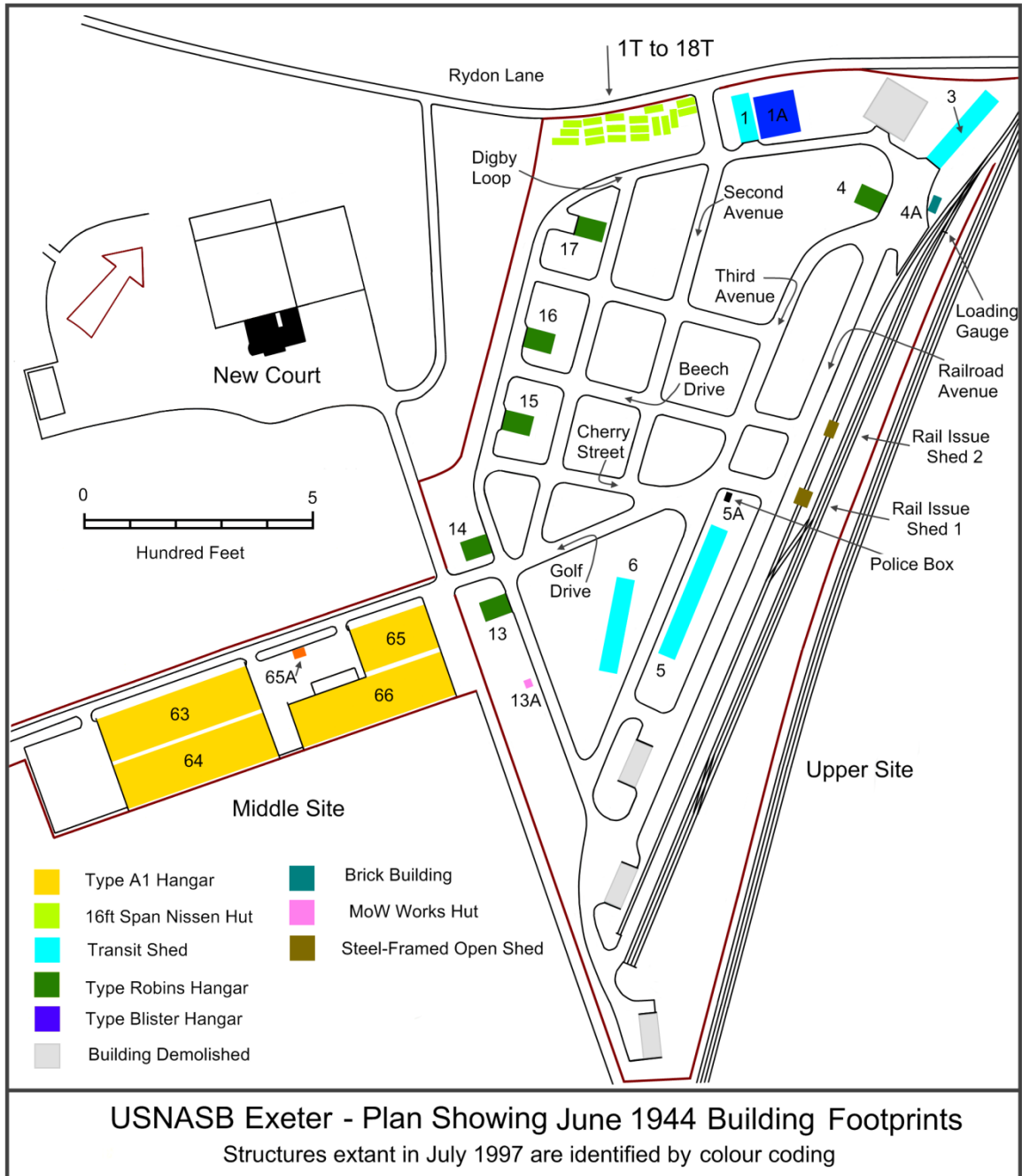
USNASB Exeter - Plan Showing Distribution of Building Types for June 1944





## USNASB EXETER - Plan Showing June 1944 Building Footprints

Structures extant in July 1997 are identified by colour coding





## Chapter 3: Gazetteer of Surviving Buildings & Structures

### 3.1 20ft Span Sheet Steel Arched Rib Utility Huts (Quonset Huts)

20ft span Sheet Steel Arched Rib Utility Huts (more commonly known as Quonset Huts) are American-built arched-shaped prefabricated huts designed as a quarters building, office accommodation or small store. They were erected around a system of cold-rolled fabricated sheet steel ribs having a span of 20ft and fixed at 4ft centres to a concrete base. External cladding consists of corrugated iron sheeting fixed with corrugations running vertically. Internal lining where fitted is of hardboard. End walls could either be steel-framed and clad with corrugated iron sheeting, or cement rendered breeze block or brick. Timber-framed windows could be fitted flush between the ribs along the side walls.

- A total of three, 20ft span Quonset huts are extant and 166 huts have been demolished.

#### 3.1.1 Muster Station (29B) (Lower Site)

<b>Length:</b>	32ft long comprising eight bays with ribs spaced at 4ft centres.
<b>Internal lining:</b>	hardboard.
<b>End walls:</b>	cement rendered brick with corrugated iron entrance porch.
<b>NGR:</b>	SX 9526 8966
<b>Comments:</b>	some of the ribs are exposed inside to reveal the following information painted between rib flanges: <i>US NAVY PKG 4 of 17 PKGS</i> . Building is now disused but is in excellent condition.



Plate 4: 20ft span Quonset Hut – Muster Station (29B)

### 3.1.2 Annexe to Building 36 (36A) (Lower Site)

**Length:** 100ft long comprising 25-bays with ribs spaced at 4ft centres.  
**Internal lining:** hardboard.  
**End walls:** cement-rendered breeze block.  
**NGR:** SX 9528 8962  
**Comments:** Building is now not used but is in excellent condition.



Plate 5: 20ft Span Quonset Hut (36A)

### 3.1.3 Latrine Block (151) (Lower Site Navy Enclave)

**Length:** 32ft comprising eight bays with ribs spaced at 4ft centres.  
**Internal lining:** unknown  
**End walls:** brick.  
**NGR:** SX 9520 8981  
**Comments:** building still used as a toilet block - not inspected.

Building out of bounds, no photography allowed.



### 3.2 40ft Span Sheet Steel Arched Rib Utility Huts (Quonset Hut)

40ft Span Sheet Steel Arched Rib Utility Store Sheds (more commonly known as Quonset Huts) are American manufactured arched-shaped in-section huts which were designed to be used as either store sheds or workshops. They were erected around a system of cold-rolled fabricated curved ribs made in three parts and when bolted together creating a span of 40ft. The standard hut had its ribs fixed either to steel wall plates or mounted onto a concrete kerb. Ribs were normally arranged at 4ft centres, or alternatively, a heavy-duty version required the spacing to be reduced to 2ft. In either case huts were erected with a length of either 100 or 200ft (single or double lengths). External cladding is in the form of corrugated iron sheeting with corrugations running vertically for the roof section which are fixed to fabricated steel purlins. The remaining sheeting with corrugations running horizontally are fixed directly to the ribs. Internal lining where fitted is of corrugated sheeting with corrugations running horizontally. End walls are steel-framed clad with corrugated iron sheeting. Windows where fitted are normally positioned in the end walls on either side of the doors. Window cheeks could also be fitted between ribs along the side walls, but this is a rare feature.

- A total of eight 40ft span Quonset huts having a length of 100ft are extant. Twelve have been demolished
- A total of five 40ft span Quonset huts having a length of 200ft are extant. Eight have been demolished.



Plate 6: 40ft Span Quonset Store Shed interior of a typical un-lined hut



Plate 7: 40ft span Quonset Store Shed - detail of arched rib and ground plate



Plate: 8: 40ft span Quonset Store Shed - detail of rib cross-bracing



### 3.2.1 Store Shed (18) (Lower Site)

<b>Length:</b>	Double length 200ft comprising 50-bays with ribs spaced at 4ft centres.
<b>Internal lining:</b>	un-lined, ribs painted and fixed to a concrete kerb.
<b>External walls:</b>	galvanised corrugated iron sheeting has been fitted to the upper section.
<b>End walls:</b>	steel-framed with double doors and dead-lights, clad with galvanised corrugated iron.
<b>NGR:</b>	SX 9554 8978
<b>Comments:</b>	building is in excellent condition.



Plate 9: 40ft Span Quonset Store Shed (18)

### 3.2.2. Store Shed (19) (Lower Site)

<b>Length:</b>	Single length 100ft comprising 25-bays with ribs spaced at 4ft centres.
<b>Internal lining:</b>	un-lined, ribs fixed to steel wall plates. One window cheek is fixed to a side wall.
<b>External walls:</b>	still retains old painted corrugated iron sheeting.
<b>End walls:</b>	steel-framed containing double doors and dead-lights. Clad with galvanised corrugated iron sheeting.
<b>NGR:</b>	SX 9546 8979
<b>Comments:</b>	building not used but is still in good condition.



Plate 10: 40ft span Quonset Store Shed (19)

### 3.2.3 Store Shed (20) (Lower Site)

<b>Length:</b>	Double length 200ft comprising 100-bays with ribs spaced at 2ft centres.
<b>Internal lining:</b>	un-lined with roof dead-lights/vents. Ribs are fixed to a concrete kerb.
<b>External walls:</b>	galvanised corrugated iron sheeting.
<b>End walls:</b>	steel-framed containing a double door and two dead-lights. Clad with galvanised corrugated iron sheeting.
<b>NGR:</b>	SX 9547 8985
<b>Comments:</b>	building not used but is in excellent condition. It is paired with Building 20A



Plate 11: 40ft span Quonset Store Shed (20)



### 3.2.4 Store Shed (20A) (Lower Site)

<b>Length:</b>	Double length 200ft comprising 100-bays with ribs spaced at 2ft centres.
<b>Internal lining:</b>	un-lined with roof dead-lights/vents. Ribs are fixed to a concrete kerb.
<b>External walls:</b>	galvanised corrugated iron sheeting.
<b>End walls:</b>	steel-framed containing a double door and two dead-lights. Clad with galvanised corrugated iron sheeting.
<b>NGR:</b>	SX 9545 8985
<b>Comments:</b>	building is not used but is in excellent condition. It is paired with Building 20.



Plate 12: 40ft span Quonset Store Sheds (20 and 20A)



Plate 13: 40ft span Quonset Store Sheds (20A and 20)





Plate 14: 40ft span Quonset Store Hut 20A

### 3.2.5 Store Shed (27) (Lower Site)

<b>Length:</b>	Double length 200ft long comprising 100-bays with ribs spaced at 2ft centres.
<b>Internal lining:</b>	unlined. Ribs are fitted to steel wall plates. Nine dead-lights are provided along its length on either side.
<b>External walls:</b>	painted corrugated iron sheeting.
<b>End walls:</b>	steel-framed containing a double door and two dead-lights. Clad with painted corrugated iron sheeting.
<b>NGR:</b>	SX 9535 8972
<b>Comments:</b>	building is not used but is in good condition.



Plate 15: 40ft span Quonset Store Shed (27)

### 3.2.6 Store Shed (28) (Lower Site)

<b>Length:</b>	Single length 100ft long comprising 50-bays with ribs spaced at 2ft centres.
<b>Internal lining:</b>	unlined. Ribs are fixed to a concrete kerb.
<b>External walls:</b>	galvanised corrugated iron sheeting.
<b>End walls:</b>	steel-framed with double doors. No windows are provided. Clad with galvanised corrugated iron.
<b>NGR:</b>	SX 9529 8969
<b>Comments:</b>	building is not used but is in excellent condition.



Plate 16: 40ft span Quonset Store Shed (28)



### 3.2.7 Life Raft Test Facility (29) (Lower Site)

**Length:** Single length 100ft long, rib spacing unknown  
**Internal lining:** painted corrugated iron.  
**External walls:** painted corrugated iron sheeting (old).  
**End walls:** steel-framed with entrance porch, clad with painted corrugated iron. A pair of window units are also provided.  
**NGR:** SX 9526 8965  
**Comments:** building previously used as a life raft test facility, but now disused and in still excellent condition.



Plate 18: 40ft Span Quonset Life Raft Test Facility (29)



Plate 19: Interior of Life Raft Test Facility (29)

### 3.2.8 Workshop Shed (31) (Lower Site)

<b>Length:</b>	Single length 100ft long comprising 50-bays with ribs spaced at 2ft centres.
<b>Internal lining:</b>	painted corrugated iron sheeting.
<b>External walls:</b>	painted corrugated iron sheeting.
<b>End walls:</b>	steel-framed containing double doors and two window units. Clad with painted corrugated iron sheeting.
<b>NGR:</b>	SX 9532 8960
<b>Comments:</b>	building is disused but is in good condition. It is presumed to have been a workshop.



Plate 20: 40ft span Quonset Workshop Shed (31)

### 3.2.9 Workshop Shed (33) (Lower Site)

<b>Length:</b>	Single length 100ft long, rib spacing unknown.
<b>Internal lining:</b>	corrugated iron.
<b>External walls:</b>	old painted corrugated iron sheeting (now rusty).
<b>End walls:</b>	steel-framed containing double doors and two window units. Clad with painted corrugated iron sheeting.
<b>NGR:</b>	SX 9530 8957
<b>Comments:</b>	building still in good condition but requires painting.



Plate 21: 40ft span Quonset Workshop Shed (33) with Boiler House (40)



Plate 22: 40ft span Quonset Workshop Shed (33)



### 3.2.10 Workshop Shed (36) (Lower Site)

<b>Length:</b>	Double length 200ft long comprising 50-bays with ribs spaced at 4ft centres.
<b>Internal lining:</b>	painted corrugated iron sheeting with roof lights/vents positioned along the roof section.
<b>External walls:</b>	painted corrugated iron sheeting.
<b>End walls:</b>	steel-framed containing a double door and two window units. Clad with painted corrugated iron sheeting.
<b>NGR:</b>	SX 9528 8960
<b>Comments:</b>	building disused but is still in good condition.



Plate 23: 40ft span Quonset Workshop Shed (36)



Plate 24: Quonset Workshop Shed (36)



Plate 25: 40ft span Quonset Workshop Shed (36)



Plate 26: Quonset Workshop Shed (36) – interior showing lining

### 3.2.11 Workshop Shed (38B) (Lower Site)

<b>Length:</b>	Single length 100ft long comprising 25-bays with ribs spaced at 4ft centres.
<b>Internal lining:</b>	corrugated iron with roof dead-lights/ vents.
<b>External walls:</b>	old painted corrugated iron (now rusty).
<b>End walls:</b>	steel-framed with double doors and two window units. Clad with painted corrugated iron sheeting.
<b>NGR:</b>	SX 9523 8974
<b>Comments:</b>	building disused but is still in good condition.



Plate 27: 40ft span Quonset Workshop Shed (38B)

### **3.2.12.        Shed (41) (Lower Site Navy Enclave)**

**Length:**                      Single length 100ft  
**Internal lining:**        unknown  
**External walls:**        painted corrugated iron.  
**End walls:**              steel-framed containing double doors. Clad with painted corrugated iron.  
**NGR:**                        SX 9522 8982  
**Comments:**              further details unknown.

### **3.2.13         Shed (47) (Lower Site Navy Enclave)**

**Length:**                      Single length 100ft  
**Internal lining:**        unknown  
**External walls:**        painted corrugated iron.  
**End walls:**              steel-framed containing double doors. Clad with corrugated iron.  
**NGR:**                        SX 9531 8999  
**Comments:**              further details unknown.

Photography denied



### 3.2.14 Shed (59A) (Lower Site)

**Length:** 100ft comprising 50 ribs spaced at 2ft centres.  
**Internal lining:** un-lined with two window cheeks fitted between ribs on either side wall. Ribs painted and fixed to a concrete kerb.  
**External walls:** painted corrugated iron (now rusty)  
**End walls:** steel-framed containing double doors and dead-lights. Clad with galvanised corrugated iron sheeting.  
**NGR:** SX 9547 8991  
**Comments:** building disused but in still in good condition.



Plate 28: 40ft span Quonset Workshop Shed (59A)



Plate 29: Quonset Workshop Shed (59A) – interior

### 3.3 Transit Sheds

Transit Sheds are American-built end-opening sheds designed as stores and workshops. Two types were erected at Exeter, one has its stanchions marked with CARNEGIE C. USA (Carnegie Steel Company), while the other type has the name ILLINOIS marked on its stanchions. Both versions have a clear span of 31ft, but the Illinois example has a bay width of 16ft 6ins with 'H'-shaped one-piece steel 8ins by 5ins stanchions. The Carnegie version has a bay width of 20ft and features two 'U'-shaped girders welded together to form a 6ins square stanchion. Both types where they have a total length greater than 100ft also have intermediate stanchions and longitudinal girders to provide additional support to every other bay. Further strength against wind forces is provided by angled bracing to the bays supporting the main access doors and the centre bay of the 200ft long sheds.

Both versions feature similar steel-framed trusses (the only difference being the angle of a raker connecting a truss with its stanchion) and steel purlins carrying corrugated iron sheeting for both roof and walls. Sheds could be erected to any reasonable length, the longest at Exeter is 300ft.

- There are four Carnegie and four Illinois Transit Sheds extant at USASB Exeter. Three individual 100ft long sheds and a triple width (100ft long) shed have been demolished.



Plate 30: Interior view of an Illinois Transit Shed (3) with modern breeze block dwarf walls



## (A) Carnegie Transit Sheds

### 3.3.1 Store Shed (5) (Upper Site)

<b>Length:</b>	300ft comprising 15-bays with stanchions spaced at 20ft centres.
<b>Wall cladding:</b>	brick kerb, painted corrugated iron (old) with dead lights and louvered air vents. End walls have large door opening.
<b>Roof cladding:</b>	corrugated iron roofing sheets with dead lights
<b>NGR:</b>	SX 9603 9018
<b>Comments:</b>	Intermediate stanchions have the name 'Trade Junior Mark'. Building is derelict but appears to be in good condition.



Plate 31: Carnegie Transit Shed (5) view looking north



Plate 32: Carnegie Transit Shed (5) view looking south

### 3.3.2 Store Shed (6) (Upper Site)

**Length:** 200ft comprising 10-bays with stanchions spaced at 20ft centres.  
**Wall cladding:** painted corrugated iron with dead-lights and louvered air vents. End walls have windows, air vents and a large door opening.  
**Roof cladding:** corrugated iron roofing sheets  
**NGR:** SX 9599 9014  
**Comments:** building is derelict and in poor condition.



Plate 33: Carnegie Transit Shed (6) view looking south



Plate 34: Carnegie Transit Shed (6) view looking north



### 3.3.3 Store Shed (21B) (Lower Site)

**Length:** 200ft comprising 10-bays with stanchions spaced at 20ft centres.  
**Wall cladding:** cement rendered breeze block and galvanised corrugated iron having dead-lights. End walls have double doors one end only.  
**Roof cladding:** galvanised corrugated iron sheeting.  
**NGR:** SX 9540 8976  
**Comments:** intermediate stanchions have the name 'Trade Junior Mark'. Building is in excellent condition.



Plate 35: Carnegie Transit Shed (21B)

### 3.3.4 Store Shed (34A) (Lower Site)

**Length:** 100ft comprising 5-bays with stanchions spaced at 20ft centres.  
Wall cladding: galvanised corrugated iron (new?) with dead lights. One end wall has a set of double doors.  
**Roof:** painted/galvanised corrugated iron.  
**NGR:** SX 9537 8952  
**Comments:** building in good condition.



Plate 36 Carnegie Transit Shed (34A)



Plate 37: Interior of Carnegie Transit Shed (34A)



## (B) Illinois Transit Sheds

### 3.3.5. Store Shed (1) (Upper Site)

**Length:** 99ft comprising 6-bays with stanchions spaced at 16ft 6ins centres  
**Wall cladding:** breeze block dwarf wall with painted/galvanised corrugated iron and a row of dead-lights. Large door opening one end only.  
**Roof cladding:** corrugated iron.  
**NGR:** SX 9593 9047  
**Comments:** although derelict, this building is in good condition.



Plate 38: Illinois Transit Shed (1)



Plate 39: Interior view of Illinois Store Shed (1)

### 3.3.6 Store Shed (3) (Upper Site)

**Length:** 198ft comprising 12-bays with stanchions spaced at 16ft 6ins centres.  
**Wall cladding:** cement rendered breeze block and painted corrugated iron. Side and end walls feature steel-framed windows and a large door opening at one end only.  
**Roof cladding:** corrugated iron roof sheeting with dead lights.  
**NGR:** SX 9606 9053  
**Comments:** building derelict, but is in good condition.



Plate 40: Illinois Transit Shed (3)



Plate 41: Illinois Transit Shed (3)



### 3.3.7 Store Shed (37) (Lower Site)

<b>Length:</b>	198ft comprising 12-bays with stanchions spaced at 16ft 6ins centres.
<b>Walls cladding:</b>	corrugated iron with glazed double doors positioned in alternate bays along one side wall. End walls have double doors and windows. Walls are lined inside with corrugated iron sheeting with corrugations running horizontally.
<b>Roof cladding:</b>	the interior of the corrugated iron roof has been lined with asbestos sheeting and hardboard with exposed roof trusses.
<b>NGR:</b>	SX 9526 8961
<b>Comments:</b>	building disused but is in good condition.



Plate 42: Illinois Transit Shed (37)



Plate 43: Illinois Transit Shed (37) interior view showing lining



Plate 44: Illinois Transit Shed (37)

### 3.3.8 Gymnasium (39) (Lower Site)

**Length:** 99ft comprising 6-bays with stanchions spaced at 16ft 6ins centres  
**Walls cladding:** painted corrugated iron with steel-framed windows.  
**Roof cladding:** painted corrugated iron and false ceiling made from flat asbestos sheeting.  
**NGR:** SX 9522 8962  
**Comments:** used recently as a life raft test centre. Building is in good condition.



Plate 45: Illinois Transit Shed Gymnasium (39)



### 3.4 Ministry of Aircraft Production Supplied Hangars

The Ministry of Aircraft Production funded the design and construction of a series of standard prefabricated buildings primarily for the maintenance of aircraft on the operational bases, the storage of aircraft on the Aircraft Storage Units and Satellite Landing Grounds, and aircraft production at the aircraft factories.

Two types of MAP hangars were erected at Exeter, these being the Type A1 and the Type Robins.

#### (A) Type A1 Aircraft Hangar 454/43

Along with the larger Type B1, the A1 hangar was designed by T Bedford Consulting Engineers, of 12 York Buildings, Adalphi, London WC2. The larger hangar being designed for use on the operational RAF stations, while the A1 was mainly erected at the aircraft factories, such as the Spitfire repair facility at Exeter Airport.

The Type A1 is an end-opening hangar with a clear span of 95ft, they were normally erected in 12, unit bays of 14ft 7ins bays. At either end steel doors in six leaves (clear height 18ft) open full width along floor and overhead door tracks that project out from the building. The upper track is supported by braced outriggers.

The steel-framed roof trusses were designed to carry a load of 2-tons plus the weight of the lifting tackle. Roof and wall cladding was originally in the form of 24-gauge galvanised corrugated sheeting.

- The steelwork for 13 hangars was supplied by Dorman Long and Co. Ltd., seven of these were erected in their standard length form, while three were built as double length sheds. Twelve hangars units are extant.

The price for a single 12-bay hangar in 1943 was as follows:

- |                         |        |
|-------------------------|--------|
| • Steel frame           | £3,795 |
| • Delivery and Erection | £925   |
| • Foundations           | £400   |
| • Total                 | £5,120 |



Plate 46: A1 Hangar (21)

### 3.4.1 A1 Hangar (21) (Lower Site)

**Length:** Single length 175ft comprising 12-bays with stanchions spaced at 14ft 7ins centres.  
**Cladding:** brick dwarf wall and galvanised iron cladding. Roof and walls have dead-lights.  
**NGR:** SX 9541 8979  
**Comments:** building in excellent condition.



Plate 47: A1 Hangar (21)



Plate 48: A1 Hangar (21)

### 3.4.2 A1 Hangar (32) (Lower Site)

**Length:** Single length 175ft comprising 12-bays with stanchions spaced at 14ft 7ins.  
**Cladding:** galvanised corrugated iron. Roof and walls feature dead-lights.  
**NGR:** SX 9537 8955  
**Comments:** one door gantry has been removed. Building in excellent condition.



Plate 49: A1 Hangar (32)



Plate 50: A1 Hangar (32)



### 3.4.3 A1 Hangar (34) (Lower Site)

**Length:** Single length 175ft comprising 12-bays with stanchions spaced at 14ft 7ins centres.  
**Cladding:** brick dwarf wall and galvanised corrugated iron. The roof has been painted but is now rusty. Roof and walls feature dead-lights.  
**NGR:** SX 9534 8950  
**Comments:** one door gantry has been damaged, but otherwise the building is in good condition. Both side walls have a post-war annexe.



Plate 51: A1 Hangar with annexe (34)



Plate 52: A1 Hangar with annexe (34)



#### 3.4.4 A1 Hangar (39) (Lower Site Enclave)

**Length:** Single length 175ft comprising 12-bays with stanchions spaced at 14ft 7ins centres  
**Cladding:** galvanised corrugated iron.  
**NGR:** SX 9520 8978  
**Comments:** further details unknown

#### 3.4.5 A1 Hangar (45) (Lower Site Enclave)

**Length:** Single length 175ft comprising 12-bays with stanchions at 14ft 7ins centres.  
**Cladding:** galvanised corrugated iron.  
**NGR:** SX 9527 8991  
**Comments:** further details unknown

**Note:** Photography denied

#### 3.4.6 A1 Hangar (63) (Middle Site)

**Length:** Double length 350ft, comprising 24-bays with stanchions spaced at 14ft 7ins.  
**Cladding:** galvanised corrugated iron with dead-lights.  
**NGR:** SX 9577 8995  
**Comments:** door gantries have been removed, but the hangar is in excellent condition.  
Joined to hangar 64



Plate 53: A1 Hangar (double-length) (63)

### 3.4.7 A1 Hangar (64) (Middle Site)

**Length:** Double length 350ft, comprising 24-bays with stanchions spaced at 14ft 7ins centres.  
**Cladding:** galvanised corrugated iron with dead-lights.  
**NGR:** SX 9579 8992  
**Comments:** door gantries have been removed, but the hangar is in excellent condition. Joined to building 63.



Plate 54: Interior of A1 Hangar (64)



Plate 55: A1 Hangars (63 and 64)



#### 3.4.8 A1 Hangar (65) (Middle Site)

**Length:** Single length 175ft, comprising 12-bays with stanchions spaced at 14ft 7ins centres.  
**Cladding:** galvanised corrugated iron with dead lights.  
**NGR:** SX 9588 9002  
**Comments:** door gantries have been removed, but the hangar is in excellent condition.



Plate 56: Interior of A1 Hangar (65)



Plate 57: A1 Hangar (65)

### 3.4.9 A1 Hangar (66) (Middle Site)

**Length:** 350ft, comprising 24-bays with stanchions spaced at 14ft 7ins centres.  
**Cladding:** galvanised corrugated iron with dead-lights.  
**NGR:** SX 9587 9002  
**Comments:** door gantries have been removed. One side wall has a large concrete loading ramp with two door openings and ramps inside hangar. Building in excellent condition.



Plate: 58: A1 Hangar (66)



Plate 59: A1 Hangar (57) and Hangar (58's) loading platform



## **(B) Type Robins Type 'B' Aircraft Hangar 2204/41 & 6874/43**

The Robins hangar (now called Robin) is a small steel-framed aircraft dispersal shed normally found on Aircraft Storage Units and Satellite Landing Grounds.

The standard arrangement required 'A'- shaped wall frames to be spaced at 12ft 6ins centres to form five bays. Roof and wall sheeting were normally 24-gauge black-painted corrugated sheeting. At one end only, doors (clear height 14ft) in four leaves open full width (clear span 44ft) along floor and upper guides which project out from the building. The upper guide is supported by a braced outrigger.

The price for a single standard length hangar in 1943 was as follows:

- |                                 |      |
|---------------------------------|------|
| • Steel frame                   | £545 |
| • Delivery and erection         | £180 |
| • Foundations (stanchions only) | £50  |
| • Total                         | £775 |

Robin hangars erected at Exeter were in the form of either standard, double or triple length sheds.

- Today, eight standard length Robin hangars are extant and three have been demolished. Two double Robin hangars are extant and one has been demolished. No triple length Robin hangars survive, while three have been demolished.



Plate 60: Robin Hangar double length interior

#### 3.4.10 Robin Hangar (4) (Upper Site)

**Length:** Single length 62ft 6ins comprising 5-bays with 'A' frames spaced at 12ft 6ins centres.  
**Cladding:** galvanised and painted corrugated iron with dead-lights.  
**NGR:** SX 9603 9046  
**Comments:** building is in good condition.



Plate 61: Robin Hangar (4)

**3.4.11 Robin Hangar (13) (Upper Site)**

**Length:** Single length 62ft 6ins comprising 5-bays with 'A' frames spaced at 12ft 6 ins centres.  
**Cladding:** galvanised corrugated iron with roof dead-lights  
**NGR:** SX 9592 9010  
**Comments:** building in excellent condition.



Plate 62: Robin Hangar (13)



Plate 63: Robin Hangar (13)



#### 3.4.12 Robin Hangar (14) (Upper Site)

**Length:** Single length 62ft 6ins comprising 5-bays with 'A' frames spaced at 12ft 6ins centres.  
**Cladding:** painted corrugated iron - no dead-lights.  
**NGR:** SX 9589 9019  
**Comments:** building derelict but is in good condition.



Plate 64: Robin Hangar (14)



Plate 65: Robin Hangar (14)



### 3.4.13 Robin Hangar (15) (Upper Site)

**Length:** Single length 62ft 6ins comprising 5-bays with 'A' frames spaced at 12ft 6ins centres.  
**Cladding:** galvanised corrugated iron - no dead-lights.  
**NGR:** SX 9588 9022  
**Comments:** one door has come off the floor door tracks, otherwise the building although derelict, is in good condition.



Plate 66: Robin Hangar (15)

**3.4.14 Robin Hangar (16) (Upper Site)**

**Length:** Single length 62ft 6ins comprising 5-bays with 'A' frames spaced at 12ft 6ins centres.  
**Cladding:** painted and galvanised corrugated iron with dead-lights.  
**NGR:** SX 9587 9022  
**Comments:** building derelict but is in good condition.



Plate 67: Robin Hangar (16)



Plate 68: Interior of Robin Hangar (16)



**3.4.15 Robin Hangar (17) (Upper Site)**

**Length:** Single length 62ft 6ins comprising 5-bays with 'A' frames spaced at 12ft 6ins centres.  
**Cladding:** painted and galvanised corrugated iron with dead-lights.  
**NGR:** SX 9587 9036  
**Comments:** building is derelict but is in good condition.



Plate 69: Robin Hangar (17)



Plate 70: Robin Hangar (17)

#### 3.4.16 Robin Hangar (30) (Lower Site)

**Length:** Single length 62ft 6ins comprising 5-bays with 'A' frames spaced at 12ft 6ins centres.  
**Cladding:** painted corrugated iron with large glazed windows located in three bays either side.  
**NGR:** SX 9531 8966  
**Comments:** one door gantry has been removed as a post-war brick-built annexe has been added to the north side elevation.



Plate 71: Robin Hangar (30)



Plate 72: Robin Hangar (30) with annexe



### 3.4.17 Robin Hangar (35) (Lower Site)

**Length:** Single length 62ft 6ins comprising 5-bays with 'A' frames spaced at 12ft 6ins centres.  
**Cladding:** painted corrugated iron with glazed windows and an annexe has been built against a side wall.  
**NGR:** SX 9529 8955  
**Comments:** building in good condition and is currently used as a workshop and has a post-war brick annexe attached to part of the north side elevation.



Plate 73: Robin Hangar (35)



Plate 74: Robin Hangar (35)

### 3.4.18 Robin Hangar (60) (Lower Site)

**Length:** Double length 125ft, comprising 10-bays with 'A' frames spaced at 12ft 6ins centres.  
**Cladding:** galvanised corrugated iron.  
**NGR:** SX 9550 8993  
**Comments:** building in excellent condition. The concrete apron in front of the hangar doors has American style sheet steel expansion joints.



Plate 75: Robin Hangar (60)

#### 3.4.19 Robin Hangar (62) (Lower Site)

**Length:** Double length 125ft, comprising 10-bays with 'A' frames spaced at 12ft 6ins centres.  
**Cladding:** painted and galvanised corrugated iron.  
**NGR:** SX 9551 8983  
**Comments:** building in good condition but now requires painting. An annexe has been built against a side wall.



Plate 76: Robin Hangar (62)



Plate 77: Robin Hangar (62)



### 3.5 Air Ministry Supplied Hangars

The Air Ministry standard small transportable hangar during World War Two was the Blister Hangar. A total of 3,000 hangars were manufactured and erected mainly on the fighter stations such as Exeter Airport where nine were built.

#### Type Blister Hangar

The Blister hangar was invented by architects and consulting engineers Norman & Dawbarn and William C Inman of Miskins & Sons who filed UK patent applications 31,002/39 and 32,529/39 in respect of the hangar.

The Blister hangar is a small arched-shaped aircraft dispersal shed for the storage and maintenance of aircraft with small wing-spans. There were three main types: a standard Blister hangar of timber construction; an Over Type of light welded-steel construction; and an Extra Over Type also of light welded-steel construction.

- Two examples were built at Exeter and both of these were of the Extra Over Type and were double length hangars. Only one survives today which is located on the Upper Site.



Plate 78: Interior of Blister Hangar (1A)



### 3.5.1 Blister Hangar (1A) (Upper Site)

**Length:** 90ft comprising 12-bays at 7ft 6ins centres.

**Span:** 96ft clear span, total width 118ft.

**Walls:** welded steel rib sections bolted together to form an arch. Angle-iron purlins carry commercial corrugated iron sheeting. The framework for the end walls are of similar construction to that used on the Sheet Steel Arched Rib Utility huts. A small door opening is provided at one end only.

**NGR:** SX 9595 8983

**Comments:** still in excellent condition.



Plate 79: Blister Hangar (1A)



Plate 80: Interior view of Blister Hangar (1A)

### 3.6 Air Ministry Supplied Huts

By 1940, the timber shortage was so acute that alternative types of hutting had to be found to the high quality all-timber pre-war huts that were then in production. The designs put forward by the Ministry of Supply were in the eyes of the Air Ministry, totally unsatisfactory for the speed and demand for the RAF programme. The use of Nissen hutting was therefore explored and a considerable number of 16ft, 24ft, and 30ft span huts were purchased and erected. Eventually the Nissen hut became the main alternative to temporary brick hutting and proved to be the most successful wartime prefabricated hut.

The Nissen hut was invented in 1915 by a Canadian, Colonel PN Nissen, who died in March 1930. His earliest buildings were known as the Nissen Bow hut and the Nissen hospital hut, designed to be used on the Western Front of the First World War. Colonel Nissen set up a company called Nissen Buildings Ltd. and a factory was built in 1922 at Rye House, Hoddesdon, Herts.

#### (A) 16ft Span Nissen Hut

The framework of 16ft span Nissen huts consisted of curved steel tee-shaped ribs made up in three sections of equal length to create an arched-shaped hut. Ribs were spaced at 6ft 6ins. centres and timber purlins were fixed to the ribs for the attaching of corrugated iron cladding. 26-gauge internal sheets were fixed with corrugations running horizontally, while external cladding was fitted with corrugations running vertically. Straining wires keep the sheeting rigid and at the correct shape with the use of ratchet type strainers. Huts could either have timber floors or concrete, those at Exeter have concrete. End walls could either be prefabricated wall units or, as at Exeter, built of cement rendered breeze blocks. A standard quarters hut comprised six bays for sleeping twelve airmen or ratings.



Plate 81: Upper Site Nissen Huts (12T, 11T and 10T)



### 3.6.1 Upper Site Nissen Hut Camp

There are a group of huts on Upper Site between Rydon Lane and Digby Loop and, these are thought to be the sleeping quarters for the segregated black Americans.

Normally you would expect to see large windows on the end walls for both natural light and fresh air but these examples only have very small frames. Huts were provided with a stove as the hole for the chimney stack is still in place on many of the huts. All huts are derelict with doors either missing or damaged. End walls are cement-rendered breeze block.

It is believed that the group is complete.

*Table: 16ft span Nissen Huts (Upper Site)*

Blg	Length	NGR	Blg.	Length	NGR
1T	6-bays	SX 9589 9046	10T	6-bays	SX 9585 9043
2T	6-bays	SX 9589 9045	11T	6-bays	SX 9585 9042
3T	6-bays	SX 9588 9045	12T	6-bays	SX 9586 9042
4T	6-bays	SX 9587 9045	13T	6-bays	SX 9584 9042
5T	6-bays	SX 9588 9044	14T	6-bays	SX 9584 9041
6T	6-bays	SX 9587 9043	14T	6-bays	SX 9584 9041
7T	6-bays	SX 9586 9043	15T	6-bays	SX 9584 9041
8T	6-bays	SX 9586 9042	16T	6-bays	SX 9582 9041
9T	6-bays	SX 9587 9042	17T	6-bays	SX 9583 9041
			18T	12-bays	SX 9582 9040



Plate 82: Interior view of a typical Upper Site Nissen Hut





Plate 83: Upper Site Nissen Huts



Plate 84: Upper Site Nissen Huts





Plate 85: Upper Site Nissen Huts (6T and 5T)



Plate 86: Another interior of a Nissen Hut



Plate 87: Upper Site Nissen Huts



Plate 88: The Nissen Hut camp at Upper Site



### 3.6.2 29A Annexe to Building 29 (Lower Site)

Length: 54ft 10ins.  
Cladding: painted corrugated iron  
NGR: SX 9528 8962  
Comments: building in very good condition.



Plate 89: 16ft Span Nissen Hut (29A) on Lower Site

## **(B) 24ft span Nissen Hut**

24ft span Nissen huts were mainly used as office accommodation and were often used on operational RAF stations as annexes to aircraft hangars. Construction is similar to that of the 16ft span hut except that the interior is lined with hardboard instead of corrugated iron. Buildings are often sub-divided into a number of office suites which are served by a central corridor. In order that offices have as much natural light as possible, window cheeks are fitted between ribs of side walls and door cheeks are also often fitted as well.

### **3.6.3 Annexe to Building 21 (21A) (Lower Site)**

**Length:** 96ft.  
**Cladding:** painted corrugated iron with air vents, window and door cheeks. Brick end walls with windows.  
**NGR:** SX 9542 8981  
**Comments:** building in good condition.



Plate 90: Nissen Hut (21A)

#### 3.6.4 Nissen Hut (24B) (Lower Site)

**Length:** 96ft.

**Cladding:** painted corrugated iron with air vents, window and door cheeks. Brick end walls.

**NGR:** SX 9531 8971

**Comments:** building in good condition.



Plate 91: Nissen Hut (24A / 24B)



Plate 92: Nissen Hut group with 40ft Quonset giving scale



**3.6.5      Nissen Hut (25)      (Lower Site)**

**Length:** 74ft.

**Cladding:** painted corrugated iron with air vents, window and door cheeks. Cement-rendered brick end walls, one having a chimney stack.

**NGR:** SX 9531 8972

**Comments:** building in good condition.



Plate 93: Nissen Hut (25)



Plate 94: Nissen Hut (25)

### 3.7 Ministry of Works Supplied Huts

By late 1942, the Inter-Departmental Committee on Hutting of the Ministry of Works became the sole arbiter on design, production and supply of hutting. With certain materials becoming restricted, attempts were made to produce huts without steel or timber. Asbestos firms produced asbestos huts and concrete companies manufactured concrete huts. In 1943, the Ministry of Works designed a cheap concrete-framed hut to replace the all-concrete hut design submitted by the British Concrete Federation (BCF) which was then in limited production. The main advantage of the new design, was that any suitable wall cladding material available locally could be used. This form of construction became known as MoW Standard Hut and was soon adopted by the Fleet Air Arm as their standard hut type.

#### Ministry of Works Standard Hut

The hut consists of a reinforced-concrete traverse frame of ribs bolted to bracketed concrete posts and held at the ridge by a continuous tie. Concrete floor sills and lintols span between the posts to provide space for prefabricated window frames and wall cladding.

##### 3.7.1 Latrine Block (13A) (Upper Site)

**Length:** 2-bays long  
**Wall:** 20ft span reinforced concrete frame with cement-rendered and painted temporary brick wall cladding.  
**NGR:** SX 9596 9007  
**Comments:** still used as a toilet block.



Plate 95: Latrine Block (13A)

### 3.7.2 Latrine Block (37A) (Lower Site)

**Length:** 2-bays long

**Wall:** 20ft span reinforced concrete frame with cement-rendered temporary brick wall cladding plus a post-war brick small extension.

**NGR:** SX 9525 8959

**Comments:** still used as a toilet block.



Plate 96: Latrine Block (37A)



### 3.8 Railway Buildings and Structures (Upper Site)

#### 3.8.1 Point Changeover Box

Located outside the site boundary close to where the main line and the depot points would have been located is a small Point Changeover Box.

It is a small cement-rendered pre-cast concrete shelter-like building positioned on railway company land just outside the depot boundary. It was used to house the hand-operated points change-over levers.

**NGR:** SX 9609 9058

**Comments:** now with doors missing and is derelict.



Plate 97: Point Changeover Box

### 3.8.2 Loading Gauge

This is a standard precast concrete railway truck loading gauge framework with a hanging steel gauge. Once used to identify any railway trucks which were loaded above the standard gauge height.

**NGR:** SX 9608 9045

**Comments:** still in good condition.



Plate 98: Loading Gauge



### 3.8.3 Rail Issue Shed 1 (Cow Shed) (Upper Site)

Rail Issue Shed 1 is a large 2-bay open-sided and covered railway truck unloading and vehicle loading shed. Built of tapered RSJ type stanchions supporting tapered cantilever type canopies ('W'-shaped in section) over the loading (road) and un-loading (railway) areas. Purlins are a combination of lattice girders and RSJs. Its date of construction is unknown.

**Length:** 75ft 6ins (total).

**Width:** 38ft (centres of stanchion).

**NGR:** SX 9606 9025

**Comments:** One RSJ tie-beam has Dorman Long stamped on it, but the tapered stanchions have no identifying marks. The structure is in excellent condition.



Plate 99: Rail Issue Shed 1



Plate 100: Rail Issue Shed 1





Plate 101: Rail Issue Shed 1 – roof detail



Plate 102: Rail Issue Shed 1



Plate 103: General view

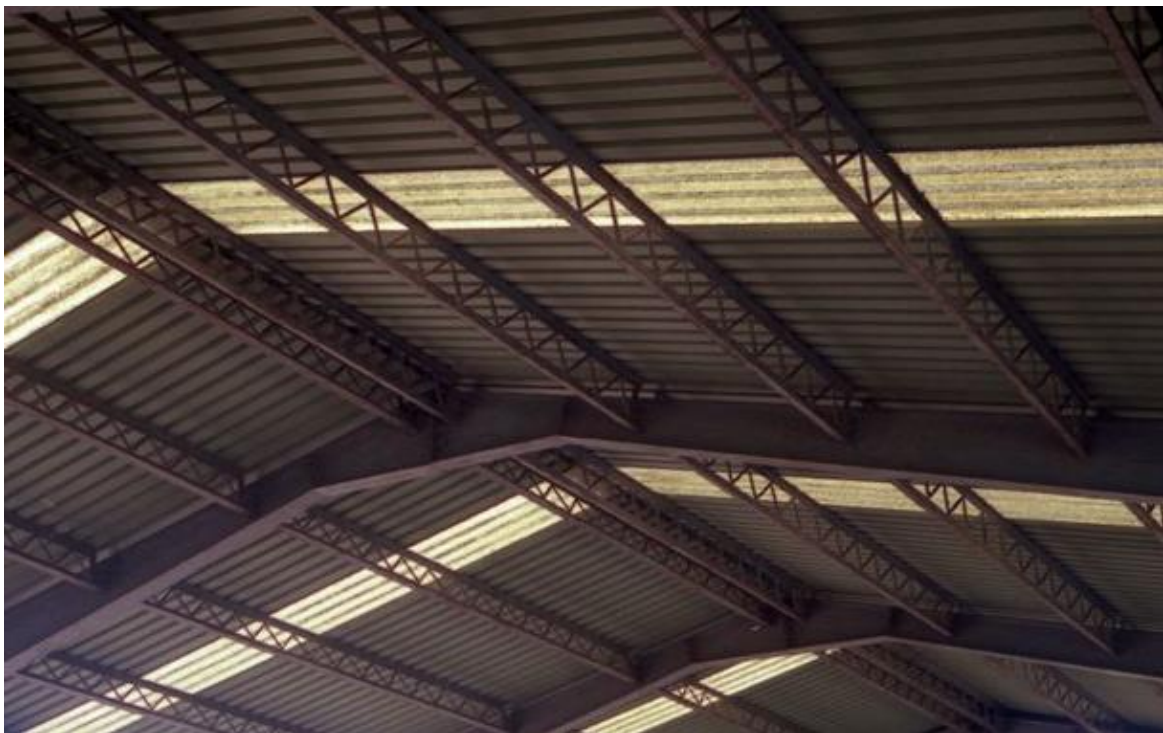


Plate 104: Roof detail showing lattice girder purlins



### 3.8.4 Rail Issue Shed 2 (Upper Site)

Rail Issue Shed 2 is a smaller open-sided and covered un-loading shed, featuring a steel-framed pitched roof which forms a canopy over the railway line. Vehicles drove into this shed to be loaded / unloaded. Built of standard type RSJs supporting a steel-framed pitched roof which is clad with painted corrugated iron.

**Length:** 44ft 10ins (centres).  
**Width:** 15ft 6ins (centres).  
**NGR:** SX 9606 9025  
**Comments:** the structure is still in good condition.



Plate 105: Rail Issue Shed 2



Plate 106: Rail Issue Shed 2



### 3.9 Miscellaneous Structures

#### 3.9.1 Amenity Building (4A) (Upper Site)

The Amenity Building is a small red-brick canteen and cement-rendered type building which is thought to date from the 1950s. It has a single-pitch timber joist roof clad with corrugated iron sheeting.

**NGR:** SX 9606 9047

**Comments:** now disused but is in good condition.



Plate 107: Amenity Building (4A)



Plate 108: Amenity Building (4A)

### 3.9.2 Police Box (5A) (Upper Site)

North of Shed 5 is the Police Box which consists of a small corrugated iron clad timber-framed structure with a felt pitched roof. It dates from WWII.

**NGR:** SX 9602 9024

**Comments:** now in poor condition.



Plate 109: Police Box (5A)



Plate 110: Police Box (5A)



### 3.9.3 Boiler House (40) (Lower Site)

Located between Sheds 31 and 33 is Boiler House (40). It is a tall but single-storey, 11in brick built structure with a stainless steel exhaust stack and a diesel oil compound at the rear. The front elevation has a full height timber-framed opening to allow access for the boiler but this is now clad with corrugated iron sheeting with a small wicket door in one corner. Its date of construction is unknown, but it is presumed to be 1950s with a later annexe.

Other details unknown



Plate 111: Boiler House (40)



### 3.9.4 Unknown Building (Lower Site)

This is a timber-framed building clad with corrugated iron sheeting, fixed to a raised concrete raft.

Details unknown



Plate 112: Unknown Building



Plate 113: Unknown Building

### 3.9.5 Petrol, Oil & Lubricant (POL) Station (Lower Site)

This is a tubular (small diameter) steel-framed and corrugated iron clad weather shelter built over two diesel oil electric pumps. There is also a corrugated iron oil store and timber framed and clad office close by. The POL station is thought to date from the 1950s.

**NGR:** SX 9524 8972



Plate 114: POL Station

### 3.9.6 Open Shed (34A) (Lower Site)

This large shed-like structure is thought to date from WWII and consists of large diameter tubular steel stanchions supporting timber beams and purlins. Cladding is of galvanised corrugated iron. This structure may have been a vehicle garage as it is positioned within the original vehicle maintenance compound.

**NGR:** SX 9536 8947

**Comments:** the structure is in good condition.



Plate 115: Open Shed (34A)



Plate 116: Open Shed (34A)



### 3.9.7 POL Station (38A) (Lower Site)

Located adjacent to 38B, this building is thought to have been an office for a POL station. Details are unknown.



Plate 117: Building (38A)

### 3.9.8 Ministry of Supply Aluminium Amenity Building (65A) (Middle Site)

This is a four-bay amenity building for the Middle Site. This building type is an example of the Bristol Aeroplane Company Ltd. building division's (Weston-Super-Mare) aluminium BL8 Type Bungalow.

It was designed around a system of flat panels for site assembly of external walls and partitions. Each panel consists of a light timber framework of studs and rails to provide a 2ins void between the outer covering of vertically ribbed 'Alcad' aluminium sheeting and the inner lining of plasterboard or hardboard. The roof is double-pitched at 20 degrees, is also covered with Alclad sheeting which are fixed to light timber trusses spaced at 6ft centres. The raw aluminium material used in its construction came from the Ministry of Supply's Aircraft Storage Units of obsolete WW2 aircraft.

**NGR:** SX 9581 9001

**Comments:** The BL8 bungalow is a very interesting example of post-war prefabrication techniques adopted by the aircraft industry adapting itself to the housing shortage, while keeping its workforce occupied until new aircraft contracts became available. This example is in excellent condition.



Plate 118: Amenity Building (65A)



Plate 119: Amenity Building (65A)

## **Appendix 1: Associated USN Bases and Store Depots in Devon**

### **(A) Dartmouth (HMS Britannia) School of Amphibious Training**

Accommodation was mainly in the form of a hutted and tented camp within the college grounds. Workshops were erected in Coronation Park, Dartmouth for the repair of amphibious craft.

### **(B) Dunkeswell USN Airfield**

Dunkeswell was a typical 'Class A' airfield built by George Wimpey and Co. Ltd. and handed over, initially to the USAAF in August 1943 and only one month later, to the US Navy as their main operational airfield in the UK. The US Navy 584th Construction Battalion Maintenance Unit operated the airfield and carried out repairs to the airfield fabric.

American manufactured buildings were as follows:

- Airfield Site

24	20ft span SS Arch Rib Utilities	- 2 survive
11	40ft span SS Arch Rib Utilities	9 survive

- Domestic Sites

83	20ft span SS Arch Rib Utilities	0 survive
3	40ft span SS Arch Rib Utilities	0 survive

### **(C) Heathfield (Bovey Tracy)**

This was a large dispersed storage depot built by the 97th Construction Battalion comprising two separate sites. One of these may have been the headquarters, camp area and open storage park, was situated on the Browhillridge Plantation, adjacent to the Heathfield Great Western Potteries & Brick Works. An existing road called Snowhill that served potteries workers cottages, was extended and a network of roads added to provide access to a number of Quonset type huts and a tented camp.

American manufactured buildings on this site comprised the following:

3	40ft span x 100ft	Steel Arched-Rib Utilities
38	20ft span of three different lengths	Steel Arched-Rib Utilities

The second site built on Knighton Heath, just east of Chudleigh Knighton, consisted of groups of either three or two, 20ft span Arched Rib Utility huts. These were erected along existing and new paths on the heath and each group was separated from its neighbour by 100ft. At least 32 groups comprising a total of 86 huts were erected in this way and two 40ft span Arched Rib Utility huts were also built on this site.

### **(D) Salcombe (Amphibious Base)**

The Salcombe Hotel became the headquarters building for the 81st and 97th Battalions. Quarters were established in a mixture of Quonset huts and requisitioned property. At the waterfront a specially constructed concrete slipway was built to haul up the landing craft. St Elmo Hospital became a US naval hospital.

### **(E) Teignmouth (Amphibious Repair and Training) – Details unknown**

### **(F) Tiverton**

Exact details unknown, but the site was located between the River Exe Aqueduct and Castle Gate House on the Bolham Road. The site is now a technical college and a school.



### Appendix 2: USN Battalions Based in the UK 1942-1945

Unit	Commissioned	Bases
29th	Camp Allen 04-10-42	Sailed to Rosneath on the <i>Queen Elizabeth</i> . Groups to Exeter, Fowey, London, Londonderry, Plymouth & Teignmouth from 31 January 1943. Detachment to France in August 1944. Battalion sailed on the <i>Queen Mary</i> and returned to USA on 12 September 1944.
69th	Camp Peary 08-02-43	Battalion stationed at Argentia between June and December 43; Plymouth from January to July 44; COUSNAAB, Falmouth from July to August 44; Dunkeswell August-September 44. Then to Omaha Beach on 9 October 44; back to Plymouth on 13 November 44. Detachments to Vicarage, Southampton; Falmouth; Exeter and Rosneath (Scotland) until April 1945.
81st	Camp Peary 13-02-43	Arrived at Rosneath on 26 August 1944, detachments at Bicester, Dartmouth, Falmouth (pontoon training), Fowey, London, Milford-Haven (hospital), Newton Abbot, Penarth, Plymouth, St. Mawes & Salcombe. During May 1944 personnel transferred to HQ at Falmouth. Arrived at Utah Beach on 6 June 1944. 1st Echelon returned to Plymouth 10 October 1944. 2nd Echelon arrived at Teignmouth prior to returning to USA on 18 October 1944.
97th	Camp Peary 18-06-43	Detachments to Dunkeswell, Exeter, Heathfield, Lough Neigh, London and Londonderry from 18 September 1943. Maintenance Units at Exeter, Dartmouth, Heathfield, Plymouth, Salcombe and Teignmouth. To Falmouth, Fowey, Milford Haven, London, Portland, Rosneath, & Southampton from 1 September 1944.
108th	Camp Peary --07-43	Section 1 & 2 to Rosneath 20 October 1943. Rosneath, Plymouth & the US hospital at Netley (Southampton) December 1943 - March 1944. Took part in D-Day on 6 June 1944. Back to Tilbury on 3 August 1944, returned to USA on 25 October 1944.
111th	Camp Peary --09-43	Sailed from the Seabee advanced training base at Davisville, Rhode Island to Liverpool on the <i>Mauritania</i> . From February 1944 detachments to Falmouth, Dartmouth, Plymouth & Swansea for the assembly and training on Rhino Barges*. From D-Day to late July, Battalion operated Rhino Barges & Pontoon Tugs to ferry men and equipment from their LST's to Omaha Beach.
146th	Plymouth (England)	Formed out of part HQ of 28th Battalion in February 1944. Operated out of Plymouth until D-Day. Detachments at Omaha & Utah Beaches until 5 October 1944. Returned to England before departing for USA on 22 October 1944.

\* A Rhino Barge was a large floating barge propelled by outboard motors, designed to carry vehicles from a landing craft to the beach.

<b>Appendix 3: USN Special Battalions Based in the United Kingdom 1944-1945</b>		
<i>Unit</i>	<i>Commissioned</i>	<i>Bases</i>
10th	unknown	unknown
30th	Davisville 02-07-44	First Section to Rosneath until 6 August when unit moved to Plymouth, there at end of WW2.

<b>Appendix 4: USN Construction Battalion Maintenance Units based in the United Kingdom 1944-1945</b>		
<i>No.</i>	<i>Commissioned</i>	<i>Bases</i>
584th	Davisville 00-01-44	On 10 February this unit sailed from Lido Beach, Long Island to England on the <i>Queen Mary</i> . To Dunkeswell 20 February 1944. This unit ran most of the facilities at Dunkeswell including the messes, medical centre, electricians, and mechanics. Departed to USA in July 1945 on the <i>Queen Elizabeth</i> .

<b>Appendix 5: USN Construction Battalion Detachments Based in the United Kingdom 1944- 1945</b>		
<i>No.</i>	<i>Commissioned</i>	<i>Bases</i>
1006	Davisville 04-04-43	From Tunisia to Exeter on LST 336 in December 1943. HQ moved to Plymouth in January 1944. Detachments to Dartmouth (Royal Naval College), Falmouth, Plymouth and Southampton. From 6 June, unit placed pontoon causeways at Utah & Omaha beaches. Sailed for USA from Greenock on the <i>Aquitania</i> .
1045	Camp Peary 00-01-44	This petroleum unit took part in the D-Day operations, but it is unknown where in England it was located prior to 6 June.
1048	Davisville 00-02-44	Based in England on 5 April 1944 but was inactivated during April & personnel were transferred into 111th Battalion at Plymouth.
1049	Camp Peary 00-03-44	This was a truck operating unit based at the NASB, Exeter.

## Primary Sources

### Air Ministry Building Drawings from RAF Museum, Hendon

9122/41	24 ft span Nissen Hut - General Construction Details
454/43	Type A1 and A2 Aircraft Hangars - GA
455/43	Type A1 and A2 Aircraft Hangars - Sections
6875/43	Type Robins Hangar Type 'B' - GA

### Photographs from the National Archives Washington

<i>Negative No.</i>	<i>Site</i>		<i>View</i>	<i>Date</i>
80-G 282223	Exeter Depot	-	Vertical Aerial	16-08-44
80-G 295563	Hawkerland Valley	-	Oblique Aerial	12-12-44
80-G 295566	Exeter Depot	-	Oblique Aerial	12-12-44
80-G 295567	Heathfield Depot	-	Oblique Aerial	12-12-44

### Photographs from Environment Department, County Hall, Exeter

2434	Heathfield Depot	-	Vertical Aerial	10-12-46
3233	Hawkerland Valley	-	Vertical Aerial	13-04-46
4425	Knighton Heath	-	Vertical Aerial	10-12-46
4454	Exeter Depot (part)	-	Vertical Aerial	11-04-47
4456	Winslade Park	-	Vertical Aerial	11-04-47
4465	Hawkerland Valley	-	Vertical Aerial	11-04-47

### Photographs from Exeter City Council, Archaeological Field Unit

6027	Exeter Depot		09-09-45
6028	Exeter Depot		09-09-45
6044	Exeter Depot		09-09-45
6045	Exeter Depot		09-09-45
6046	Exeter Depot		09-09-45
6047	Exeter Depot		09-09-45
6048	Exeter Depot		09-09-45
6049	Exeter Depot		09-09-45
6248	Exeter City Basin		30-09-45
6249	Exeter City Basin		30-09-45
6250	Exeter City Basin		30-09-45

### Unpublished Official History

Commander, Amphibious Bases UK, Plymouth, Devon, 1-11-44	A History of the US Naval Bases in the UK
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Plumtree, RW	The US Navy Advanced Supply Base, Exeter & the Royal Naval Stores Depot, Exeter - An Outline of Their Existence & operations 1944-1984.
Wasley, G	Devon at War. Devon Books 1994